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10/593,051	09/08/2008	Evyatar Meller	0077898-000006	7254
21839 7590 04/21/2011 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER BUI, HANH THI MINH	
			ART UNIT 2192	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/593,051

Applicant(s)

MELLER ET AL.

Examiner

HANH T. BUI

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This is in response to Applicants' amendment dated January 31<sup>st</sup>, 2011, responding to the October 13<sup>th</sup>, 2010 Office Action provided in the rejection of claims 1-11.

Examiner appreciated that Applicants do not request to issue a new Office Action because examiner did not reject claims 1-9 and 12-15, which included in a Preliminary Amendment.

### ***Status of Claims***

2. Claims 1-9 and 12-15 are pending, of which claims 1, 8, 9, 12, 13, 14, and 15 are in independent form, and which have been fully considered by the Examiner.

3. Applicants' arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection. See Chen et al. (Patent No. 7,657,886 – hereinafter, Chen '886) new art made of record.

### ***Response to Amendment***

4. The 35 USC § 101 rejection of claims 10-11 have been withdrawn in view of Applicants' cancellation of the claims.

5. The objection of claim 7 has been withdrawn in view of Applicants' amendment to the claim.

### ***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**7. Claims 13 and 15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

8. Claims 13 and 15 recite “*A computer program-product comprising a computer useable medium*”. The broadest reasonable interpretation of a claim drawn to a computer readable medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media and transitory propagating signals *per se* in view of the ordinary and customary meaning of the computer readable media, particularly when the specification is silent. See MPEP 2111.01. When the broadest reasonable interpretation of a claim covers a signal *per se*, the claim must be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter. See *In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter) and *Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. § 101*, Aug. 24, 2009; p. 2. As such, claims 13 and 15 are not limited to statutory subject matter and are therefore non-statutory.

Please consider to amend the claims to recite - *-A computer program-product comprising a non-transitory computer useable medium ...- -*.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was

Art Unit: 2192

made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**10. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill (Patent No. 6,832,373 – hereinafter, O'Neill – IDS submitted 5/1/2007) in view of Chen et al. (Patent No. 7,657,886 - hereinafter, Chen '886).**

Regarding claim 1:

O'Neill discloses *a method for in-place updating an old version of a file stored on a storage device to form a new version, the old version including blocks, the method comprising:*

- *determining (i) a [form] of said old version, [indicating at which end of the old version free space is located], and (ii) whether an update package is a corresponding update package for [said form]; and if so*

(FIG. 1A and associated text, such as, “the *updating operations* can correct errors or problems with existing code resident in the device, add new features or functionality, *change or modify resident applications*, or perform other desired update operations” (emphasis added - See Col. 8: 12-15).

FIG. 9 and associated text, such as, “The non-volatile storage area may be further subdivided into a plurality of blocks or banks 1010 which represent discretely addressable locations used to store information or data. The operating system, firmware code, or other information 1120 to be desirably updated is further stored in the non-volatile memory or storage area 1002 and is distributed across at least some of the plurality of banks 1010.” (emphasis added – See Col. 31: 41-51).

“banks within a particular electronic device may be variably sized and may refer to the contents of one or more logical or physical *blocks* as defined by a particular architecture for an electronic device” (emphasis added – See Col. 31: 14-26).

FIG. 10 and associated text, such as, “update process 1100 typically begins after the *appropriate available update package 110 is identified* and transferred to the electronic device” (emphasis added – See Col. 33: 37-39).

“*determine* if the received update package 110 is *appropriate* for application to the *existing code version*” (emphasis added – See Col. 33: 53-56)).

- *updating blocks in said old version according to said corresponding update package, [giving rise to a new version having an alternative form, where free space in the new version is at an opposite end to the old version].*

(“update package comprising an instruction set which indicates how to *transform the resident operating code into the updated operating code* and how to generate the *update data blocks utilizing at least in part the plurality of data blocks of the resident operating code*” (emphasis added – See Col. 5: 19-23).

FIG. 9 and associated text, such as, “*apply update instruction state 1130* where the appropriate instruction from the instruction set is executed to *modify* the working bank of information in such a manner that *the old code version contained in the bank is transformed into the new code version.*” (emphasis added – See Col. 32: 52-57).

“these bank may contain information which comprises the operating system, firmware code, or application that conveys functionality to the electronic device and which

Art Unit: 2192

is *desirably updated from the first code version to the second code version*" (emphasis added – See Col. 33: 32-36)).

But, O'Neill does not explicitly teach:

- *a form indicating at which end of the old version free space is located.*

However, Chen '886, an analogous art with O'Neil, discloses an updating method that capable of updating firmware in a fault-tolerant mode using a bank-by-bank update process. Chen '886 further discloses in FIG. 3 – element 307 and associated text, such as, "the initial block layout 307 for the memory image may include a free block 319" (emphasis added – See Col. 8: 6-7).

But, O'Neill does not explicitly teach:

- *giving rise to a new version having an alternative form, where free space in the new version is at an opposite end to the old version.*

However, Chen '886 discloses in FIG. 3 and associated text, such as, "the update process may *use a free block* as the first block to be *written with updated content*. Thus, the initial block layout 307 for the memory image may include a free block 319 that is used during update 343 to *create an updated block D 329* in updated block layout 309, from an original block d 317. Similarly, after updated block D 329 is created, the free block 319 may *move to occupy original block 317*, into which an *original block c 315 may be updated and saved as the updated block C 327 (giving raise to a new version)*, and so on. Thus, *starting with the initial block layout 307*, an update agent such as, for example, the update agent 229 of FIG. 2 may *create the updated block layout 309* during an update process, *with a free block initially located at free block 319 finally ending up as the free block 321*

Art Unit: 2192

*(alternative form, where free space in the new version is at an opposite end to the old version).*” (Emphasis added –See Col. 8: 4-17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Chen ‘886 into the teachings of O’Neill because such combination would have update provided a technique to update the same blocks of flash memory employing only one flash erase and one flash write, thereby reducing the update time considerably as suggested by Chen ‘886 (See Col. 3: 52-55).

Regarding claim 2:

O’Neill and Chen ‘886 disclose *the method of Claim 1, wherein said form is a B-form and wherein said alternative form is an E-form.*

(Chen ‘886 further discloses in FIGS. 3 and 4).

Regarding claim 3:

O’Neill and Chen ‘886 disclose *the method of Claim 1, wherein said form is an E-form and wherein said alternative form is a B-form.*

(Chen further discloses in FIGS. 3 and 4).

Regarding claim 4:

O’Neill and Chen ‘886 disclose *the method of Claim 1, further comprising:*  
*for each block in said new version, verifying that content in said new block is successfully stored.*



(O'Neill further discloses "the bank information is validated to insure the contents reflect the desired code." (Emphasis added – See Col. 35: 63-64)).

Regarding claim 5:

O'Neill and Chen '886 disclose *the method of Claim 1 wherein said storage device is accommodated in a cellular telephone.*

(O'Neill further discloses "in the case of a *mobile phone*, the *current code version* may reflect the *contents of the memory or storage* area to be updated. The contents of the memory or storage area may further comprise the operating system code, application code, firmware contents, or other instruction sets used by the electronic device to convey functionality." (Emphasis added – See Col. 1660-65)).

Regarding claim 6:

O'Neill and Chen '886 disclose *the method of Claim 1 further comprising: determining whether an amount of free space in the old version is too small to allow in-place update of the old version to the new version; and if so, enlarging said free space to allow said in-place update.*

(Chen '886 further discloses in FIG. 1 and associated text, such as, "In addition, an update of multiple blocks of the non-volatile memory 123 by an update agent such as the update agent 129, for example, may *employ one or more free memory banks (enlarging free space)* (sometimes referred to as bubbles or empty blocks). The free memory banks may be employed such that an update of designated blocks (e.g., according to some

Art Unit: 2192

predefined order) may be conducted so that the contents of an 'old' logical or virtual block is maintained (e.g., for fault tolerance purposes) until the successful update and flash memory write into a different physical block of memory is completed. Subsequent to the successful update of a block, the next logical block in the block order may be updated (e.g., in RAM) and written into a different (often subsequent) block adjacent to the previously updated block, and so on." (Emphasis added – See Col. 5: 52-67)).

Regarding claim 7:

O'Neill and Chen '886 disclose *the method of Claim 5, wherein said enlarging includes: updating said old version to a temporary version having content equivalent to said old version with an alternative form to said old version and a larger free space than in said old version; and updating said temporary version to form said new version.*

(Chen '886 further discloses in FIG. 1 and associated text, such as, "In addition, an update of multiple blocks of the non-volatile memory 123 by an update agent such as the update agent 129, for example, may *employ one or more free memory banks* (sometimes referred to as bubbles or empty blocks). The free memory banks may be employed such that an update of designated blocks (e.g., according to some predefined order) may be conducted so that the contents of an 'old' *logical or virtual block (temporary version)* is maintained (e.g., for fault tolerance purposes) until the successful update and flash memory write into a different physical block of memory is completed. Subsequent to the successful update of a block, the next logical block in the block order may be updated

Art Unit: 2192

(e.g., in RAM) and written into a different (often subsequent) block adjacent to the previously updated block, and so on.” (Emphasis added – See Col. 5: 52-67)).

Regarding claim 8:

O’Neill discloses *a method for in-place updating an old version of a file stored on a storage device of a remote device to form a new version, the method comprising:*

- *determining a [form] of said old version [indicating at which end of the old version free space is located];*
- *generating an update package that is adapted for said form of the old version; and*

(FIG. 1A and associated text, such as, “the *updating operations* can correct errors or problems with existing code resident in the device, add new features or functionality, *change or modify resident applications*, or perform other desired update operations” (emphasis added - See Col. 8: 12-15).

FIG. 9 and associated text, such as, “The non-volatile storage area may be further subdivided into a plurality of blocks or banks 1010 which represent discretely addressable locations used to store information or data. The operating system, firmware code, or other information 1120 to be desirably updated is further stored in the non-volatile memory or storage area 1002 and is distributed across at least some of the plurality of banks 1010.” (emphasis added – See Col. 31: 41-51).

“banks within a particular electronic device may be variably sized and may refer to the contents of one or more logical or physical *blocks* as defined by a particular architecture for an electronic device” (emphasis added – See Col. 31: 14-26).

FIG. 10 and associated text, such as, “update process 1100 typically begins after the *appropriate available update package 110 is identified* and transferred to the electronic device” (emphasis added – See Col. 33: 37-39).

“*determine* if the received update package 110 is *appropriate* for application to the *existing code version*” (emphasis added – See Col. 33: 53-56).

- *conveying said update package to said remote device.*

(FIGS. 1A and 1B).

But, O'Neill does not explicitly teach:

- *a form indicating at which end of the old version free space is located.*

However, Chen '886, an analogous art with O'Neil, discloses an updating method that capable of updating firmware in a fault-tolerant mode using a bank-by-bank update process. Chen '886 further discloses in FIG. 3 – element 307 and associated text, such as, “the initial block layout 307 for the memory image may include a free block 319” (emphasis added – See Col. 8: 6-7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Chen '886 into the teachings of O'Neill because such combination would have update provided a technique to update the same blocks of flash memory employing only one flash erase and one flash write, thereby reducing the update time considerably as suggested by Chen '886 (See Col. 3: 52-55).

Regarding claim 9:

This is another apparatus version of the rejected claim 1 above, wherein all the limitations of this claim have been noted in the rejection of claim 1.

Regarding claim 12:

This is another program storage device version of the rejected claim 1 above, wherein all the limitations of this claim have been noted in the rejection of claim 1.

Regarding claim 13:

This is another computer program-product version of the rejected claim 1 above, wherein all the limitations of this claim have been noted in the rejection of claim 1.

Regarding claim 14:

This is another program storage device version of the rejected claim 8 above, wherein all the limitations of this claim have been noted in the rejection of claim 8.

Regarding claim 15:

This is another computer program product version of the rejected claim 8 above, wherein all the limitations of this claim have been noted in the rejection of claim 8.

***Conclusion***

Art Unit: 2192

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh T. Bui whose telephone number is (571) 270-1976. The examiner can normally be reached on Mon. - Fri., 9:30AM - 4:00PM.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hanh T Bui/

Examiner, Art Unit 2192

April 18, 2011

/Thuy Dao/

Primary Examiner, Art Unit 2192

April 18, 2011